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(71) Applicant and

(72) Inventor: **KISELIK, Daniel, R.** [US/US]; P.O. Box 266,  
Leonora, NJ 07605-0266 (US).

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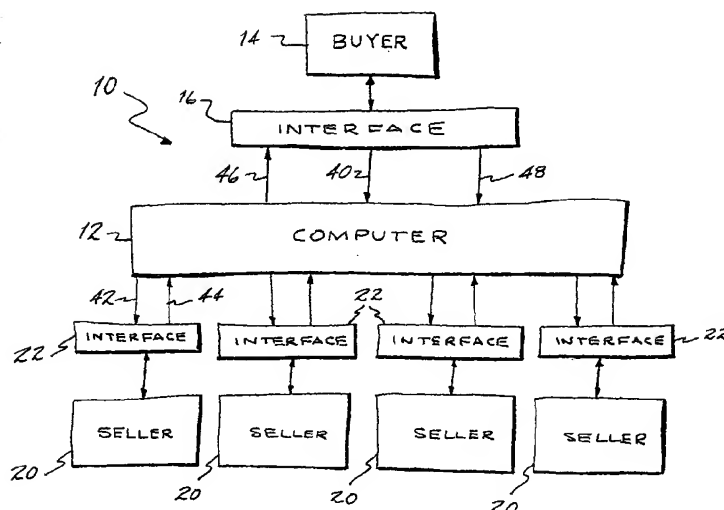
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(74) Agent: **JACOB, Arthur**; 25 East Salem Street, P.O. Box 686, Hackensack, NJ 07602 (US).

(54) Title: METHOD AND APPARATUS FOR THE AUTOMATIC SELECTION OF PARTIES TO A TRANSACTION BETWEEN A BUYER AND A SELLER OF GOODS OR SERVICES



(57) Abstract: A method of operating a computer system (Fig. 1) and a computer (12) for the automatic selection of a system-qualified buyer (14) and a system-qualified seller of goods and services to a transaction, utilizes predetermined criteria for buyers and sellers to establish a selected group of sellers qualified to respond to a particular request for a quote by the qualified buyer. Timely responses of the qualified sellers meeting the particular needs established by the buyer are presented to the buyer for selection of a seller and automatic completion of the transaction. Subsequent to completion of the transaction a buyer's rating of the seller's performance and a seller's rating of the buyer's performance are entered into the computer system for continuous updating of performance ratings.

METHOD AND APPARATUS FOR THE AUTOMATIC SELECTION OF PARTIES  
TO A TRANSACTION BETWEEN A BUYER AND A SELLER  
OF GOODS OR SERVICES

The present invention relates generally to arranging particular transactions between buyers and sellers of goods or services and pertains, more specifically to the use of a computerized system and method for automatically  
5 selecting the parties to such transactions.

An expanding world-wide market for goods and services presents ever-increasing numbers of buyers and sellers available for the completion of sales transactions in a myriad of fields. A buyer or seller wishing to enter a  
10 market is faced with an almost unlimited number of choices in finding a party best suited to completing a particular sales transaction. The availability of a network universally accessible by computers provides opportunities not attainable by manually operated business models. While  
15 many systems have been proposed for matching buyers and sellers of goods and services, based upon various criteria established by the parties to particular transactions, enabling narrowing of the field of potential buyers and sellers to the most promising parties available for a  
20 particular transaction, the present invention facilitates the automatic selection of parties and the automatic completion of a sales transaction between the selected parties, enabling increased accuracy with minimal time and effort, and concomitant decreased cost, in effecting a  
25 transaction which meets criteria established by both the buyer and the seller in a particular market. The completion of the transaction in the present invention is effected automatically, thereby conserving the time and resources of the parties in accomplishing a transaction  
30 meeting all of the requirements of both parties. The

result is improved profitability for the seller and lower pricing for the buyer, all accomplished automatically.

As such, the present invention attains several objects and advantages, some of which are summarized as follows:

- 5 Automatically selects parties for a particular transaction from qualified buyers and qualified sellers available in a market for goods or services; takes into account composites of criteria established by both buyers and sellers in order to effect rapid and accurate selection of
- 10 parties to a particular sales transaction; enables an evaluation based upon past performance of potential parties to a transaction in the automatic selection of parties to a particular transaction; provides increased flexibility in completing a transaction between selected parties to a
- 15 sales transaction; facilitates completion of a particular sales transaction through automatically furnishing proprietary items, such as technical data, as well as detailed specifications pertinent to the transaction; enables a purchaser to obtain rapid and accurate
- 20 fulfillment of specific purchase requests at an advantageous price in fields which offer a multiplicity of suppliers; attains improved profitability for suppliers; reduces transaction costs for both buyers and sellers; promotes a dynamic system which evolves continually into a
- 25 more effective selection of parties to particular transactions; provides a reliable system for effecting automatic transactions between buyers and sellers of goods or services at more advantageous prices and conditions.

The above objects and advantages, as well as further

30 objects and advantages, are attained by the present invention which may be described briefly as a method of operating a computer system for the automatic selection of parties to a transaction between a system-qualified buyer of goods or services and a system-qualified seller of goods

35 or services, the method comprising the steps of: inputting

into the computer system a first predetermined composite of criteria representing each buyer qualified to enter the computer system as a system-qualified buyer; inputting into the computer system a second predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller in the computer system, the second predetermined composite of criteria including vendor criteria pertaining to the ability of the seller to deliver goods or services, and vending criteria pertaining to requirements of the seller in a particular transaction in order for the seller to sell to a particular buyer; entering into the computer system a request for a quote by a buyer identified as a system-qualified buyer, the request for a quote including a schedule of requirements established by the system-qualified buyer; comparing in the computer system the schedule of requirements with the vendor criteria of the second predetermined composite of criteria to establish a selected group of system-qualified sellers able to meet the schedule of requirements; comparing in the computer system the vending criteria of each seller of the selected group of system-qualified sellers with the first predetermined composite of criteria to establish a sub-group of sellers willing to sell to the system-qualified buyer entering the request for a quote; outputting from the computer system the request for a quote for submission to the sub-group of system-qualified sellers for timely responses by sellers of the sub-group of system-qualified sellers; inputting into the computer system timely responses by responding sellers of the sub-group of system-qualified sellers, each response including a price required by a corresponding responding seller, and outputting from the computer system the timely responses inputted by the responding sellers for selection by the buyer of a response from among those timely responses inputted by responding sellers; inputting into the

computer system a buyer selected response and outputting from the computer system the buyer selected response to notify the seller corresponding to the selected response of the selection of the selected response by the buyer; and  
5 outputting from the computer system to the buyer the identity of the seller and outputting from the computer system to the seller the identity of the buyer for completion of the transaction.

In addition, the present invention includes a computer  
10 system operated for the automatic selection of parties to a transaction between a system-qualified buyer of goods or services and a system-qualified seller of goods or services, the computer system comprising: an inputting device for: inputting into the computer system a first  
15 predetermined composite of criteria representing each buyer qualified to enter the computer system as a system-qualified buyer; inputting into the computer system a second predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller  
20 in the computer system, the second predetermined composite of criteria including vendor criteria pertaining to the ability of the seller to deliver goods or services, and vendee criteria pertaining to requirements of the seller in a buyer in order for the seller to sell to a particular  
25 buyer; and entering into the computer system a request for a quote by a buyer identified as a system-qualified buyer, the request for a quote including a schedule of requirements established by the system-qualified buyer; such that the computer system compares: the schedule of  
30 requirements with the vendor criteria of the second predetermined composite of criteria to establish a selected group of system-qualified sellers able to meet the schedule of requirements; and the first predetermined composite of criteria with the vendee criteria of each seller of the  
35 selected group of system-qualified sellers to establish a

sub-group of sellers willing to sell to the system-qualified buyer entering the request for a quote; and an outputting device for: outputting from the computer system the request for a quote for submission to the sub-group of  
5 system-qualified sellers for timely responses by sellers of the sub-group of system-qualified sellers; the inputting device further being operative for: inputting into the computer system timely responses by responding sellers of the sub-group of system-qualified sellers, each timely  
10 response including a price required by a corresponding responding seller, and outputting from the computer system the timely responses inputted by the responding sellers for selection by the buyer of a response from among those timely responses inputted by responding sellers; and  
15 inputting into the computer system a buyer selected response and outputting from the computer system the buyer selected response to notify the seller corresponding to the selected response of the selection of the selected response by the buyer; and the outputting device further being  
20 operative for: outputting from the computer to the buyer the identity of the seller and outputting from the computer to the seller the identity of the buyer for completion of the transaction.

The invention further includes an improvement in a  
25 method of operating a computer system for the automatic selection of parties to a transaction to be completed between a system-qualified buyer of goods or services and a system-qualified seller of goods or services, wherein a first predetermined composite of criteria representing each  
30 buyer qualified to enter the computer system as a system-qualified buyer is inputted into the computer system and a second predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller in the computer system is inputted into the computer  
35 system, the second predetermined composite of criteria

including vendor criteria pertaining to the ability of the seller to deliver goods or services, and vending criteria pertaining to requirements of the seller in a particular transaction in order for the seller to sell to a particular  
5 buyer, the improvement comprising: inputting into the computer system, subsequent to completion of the transaction, a rating by the buyer of the performance of the seller, and including the rating in the vendor criteria of the second predetermined composite of criteria. In  
10 addition, subsequent to completion of the transaction, a rating by the seller of the performance of the buyer may be inputted into the computer system and included in the first predetermined composite of criteria.

Still further, the invention includes, in a computer  
15 system operated for the automatic selection of parties to a transaction to be completed between a system-qualified buyer of goods or services and a system-qualified seller of goods or services, wherein an inputting device is operative for inputting into the computer system a first  
20 predetermined composite of criteria representing each buyer qualified to enter the computer system as a system-qualified buyer and a second predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller in the computer system, the second  
25 predetermined composite of criteria including vendor criteria pertaining to the ability of the seller to deliver goods or services, and vending criteria pertaining to requirements of the seller in a particular transaction in order for the seller to sell to a particular buyer, the  
30 improvement wherein: the inputting device is further operative for inputting into the computer system, subsequent to completion of the transaction, a rating by the buyer of the performance of the seller, and including the rating in the vendor criteria of the second  
35 predetermined composite of criteria. In addition, the

inputting device can be further operative for inputting into the computer system, subsequent to completion of the transaction, a rating by the seller of the performance of the buyer, and including the rating in the first  
5 predetermined composite of criteria.

The invention will be understood more fully, while still further objects and advantages will become apparent, in the following detailed description of preferred embodiments of the invention illustrated in the  
10 accompanying drawing, in which:

FIG. 1 is a block diagram of a system constructed and operated in accordance with the present invention;

FIG. 2 is a block diagram of a portion of the system;

FIG. 3 is a flow chart illustrating an initial portion  
15 of the operation of the system;

FIG. 4 is a flow chart illustrating another initial portion of the operation of the system;

FIG. 5 is a flow chart illustrating a further portion of the operation of the system;

20 FIG. 5A is a flow chart illustrating an alternate further portion of the operation of the system;

FIGS. 6 through 6C comprise a flow chart illustrating continued portions of the operation of the system; and

FIG. 7 is a flow chart illustrating the operation of  
25 a further feature of the system.

Referring now to the drawing, and especially to FIGS. 1 and 2 thereof, a system constructed and operated in accordance with the present invention is shown diagrammatically at 10 and is seen to include a computer 12  
30 linked to a buyer input device shown in the form of a buyer terminal 14 through a buyer interface 16 and linked to a number of seller input devices shown in the form of seller terminals 20 through corresponding seller interfaces 22. These input devices may be in the form of PC's, remote  
35 computer systems, hand-held devices, cellular telephones,



and the like. While the diagram of FIG. 1 shows only one buyer terminal 14 and only four seller terminals 20, the number of terminals shown is for illustrative purposes only, it being understood that an essentially unlimited  
5 number of terminals can be linked to the computer 12 for operation of the system of the present invention. As seen in FIG. 2, the computer 12 includes a central processing unit (CPU) 30, a random access memory (RAM) 32, a clock 34, an authentication processor 36, and a data storage device  
10 38, and is operated in the manner set forth hereinafter.

In order to enter the system of the present invention, a potential buyer of goods or services must first be qualified to serve as a party to a transaction accomplished by the system. Likewise, a potential seller of goods or  
15 services must be qualified in order to be made available as a party in the system. Turning now to FIG. 3, a buyer may become system-qualified by inputting into the computer 12 qualification information in the form of a first predetermined composite of criteria representing the buyer.  
20 The composite of criteria includes information about the buyer and is entered into the computer 12 in a standardized format. The information may be composed of both public information and non-public information. The information is verified and may be combined with further information  
25 furnished by an outside source to establish a more complete composite of criteria pertaining to the buyer. The verification, or validation, preferably is accomplished by an intermediary, upon release of the intermediary by the buyer to perform such validation. If, as a result of the  
30 validation process, it is determined that more information is required, the buyer is informed and may enter the required information. If the validation process indicates that the buyer cannot be qualified to enter the system, the buyer is notified of the buyer's ineligibility. Upon  
35 completion of a successful validation process, the complete

composite of criteria pertaining to the buyer, in the form of a buyer profile, is generated and stored in the system 10 as a buyer database in the data storage device 38. The composite of criteria, or buyer profile, may include, but 5 is not limited to, such information as credit rating, financial strength, years in business, size of buyer organization, and geographic location. In addition, the buyer may choose to include certain global constraints, such as minimum quality requirements, regulatory 10 requirements, minimum desired financial strength in a potential seller, and like constraints which will be common to all requests to be entered into the system by the buyer. The system now is available for use by the system-qualified buyer.

15 Referring now to FIG. 4, a seller may become system-qualified by inputting into the computer 12 qualification information in the form of a second predetermined composite of criteria representing the seller. The second composite of criteria includes information about the seller and is 20 entered into the computer 12 in a standardized format. The information may be composed of both public and non-public information. The second composite of criteria includes vendor criteria pertaining to the ability of the seller to deliver particular goods or services, and vending criteria 25 pertaining to requirements of the seller in a particular transaction in order for the seller to sell to a particular buyer. The vending criteria may include, but are not limited to, available equipment, average inventory levels of critical supplies, capacity for filling orders, debt 30 levels, cash-flow information, and the like. The vending criteria may include, but are not limited to, buyer characteristics as well as sale characteristics required by the seller before the seller will agree to do business with a particular buyer in a particular transaction. The 35 information is verified and may be combined with further

information furnished by an outside source to establish a more complete composite of criteria pertaining to the seller. The verification, or validation, preferably is accomplished by an intermediary, upon release of the intermediary by the seller to perform such validation. If, as a result of the validation process, it is determined that more information is required, the seller is informed and may enter the required information. If the validation process indicates that the seller cannot be qualified to enter the system, the seller is notified of the seller's ineligibility. Upon completion of a successful validation process, the complete composite of criteria pertaining to the seller, in the form of a seller profile, is generated and stored in the system 10 as a seller database in the data storage device 38. The composite of criteria, or seller profile, thus may include, but is not limited to, such information as ability to deliver, credit rating, financial strength, years in business, size of seller organization, and geographic location. The seller now is available to participate in the system as a system-qualified seller.

Turning now to FIG. 5, a system-qualified buyer establishes a schedule of requirements required by the buyer for the purchase of goods or services and enters a purchase request based upon those requirements. The requirements may include, among other conditions, job specifications, job quantity, turn-around time, quality level, quality control requirements, and delivery logistics, and might even identify a specific seller or sellers to be excluded from consideration. In addition, the schedule of requirements specifies a fixed time by which a potential seller must respond to the purchase request. As seen in FIG. 1, the request is entered at 40 via a buyer interface 16 which may utilize the world-wide web, a predetermined E-mail format, or by some ubiquitous

manner tied into the buyer's own computer system to transmit the purchase request to the computer 12. Utilizing authentication data stored in the data storage device 38, the authentication processor 36 confirms the identity of the buyer and then allows the entry of detailed specifications pertaining to the purchase. The buyer also enters certain desirable intangible factors and/or constraints, such as, but not limited to, size of the seller organization, geographic location, financial strength of the seller organization, sales volume of the seller organization, years in business, legal status, credit rating, and past performance. In addition, the buyer enters a recent price paid for equivalent goods or services, if such information is available, together with a percentage allowance for price increases, if any. A need date for both pricing and delivery also is entered. Proprietary items, such as engineering drawings, technical specifications, or the like may be included, as required. All of the information then is forwarded to a sourcing engine in the form of a request for a quote (RFQ).

In one alternate available procedure depicted in FIG. 5A, the buyer stores recurrent purchase requirements in a predetermined file format, stores intangible factors in a predetermined file format, and stores proprietary items, such as engineering drawings, technical specifications, and the like, where required, in an acceptable format. An automated system maintained by the buyer determines when a need arises for goods or services and, via pre-programmed trigger-points, forwards information pertaining to the purchase requirements, including the fixed time by which a potential seller must respond to the purchase request, the intangible factors, and the proprietary items, such as engineering drawings, technical specifications, or the like, if applicable, to the sourcing engine in the form of a request for a quote (RFQ). The procedures of both FIGS.

5 and 5A are available for a buyer's use, either in the alternative or in combinations suited to particular transactions.

As seen in FIGS. 6 through 6C, the request for a quote  
5 received at the sourcing engine is processed in the computer 12 to determine if there are any system-qualified sellers available in the system for filling the purchase request by being able to meet the schedule of requirements portion of the request for a quote, and then to determine  
10 if any such available sellers meet the intangible factors included in the request for a quote. If there are no such sellers available in the system, the buyer is informed of that fact and is given an opportunity to refine the request for a quote and resubmit the refined request for a quote.  
15 If there are system-qualified sellers available in the system able to meet all of the requirements set forth in the request for a quote, these system-qualified sellers are placed in a selected group established by comparing in the computer 12 the schedule of requirements provided by the  
20 buyer with the vendor criteria of the second predetermined composite of criteria entered by each of the sellers. Then the vending criteria of each seller of the selected group of system-qualified sellers is compared, in the computer 12, to the first predetermined composite of criteria  
25 representing the buyer. The vending criteria may include, but are not limited to, credit rating, financial strength, years in business, size of buying organization, size of order, geographic location of buyer, complexity of order, required lead-time, and past performance of buyer in the  
30 system. A particular buyer may be identified to be excluded from consideration. Where the first predetermined composite of criteria does not meet the vending criteria of a seller of the selected group, the purchase request is not submitted to that seller. Where the first predetermined  
35 composite of criteria does meet the vending criteria of a

seller, the seller is included in a sub-group of system-qualified sellers willing to sell to the system-qualified buyer entering the purchase request. The request for a quote then is outputted from the computer 12 to each seller  
5 in the sub-group, as illustrated at 42 in FIG. 1, and the sellers are given an opportunity to respond to the request for a quote. The sellers in the sub-group are provided with the fixed time by which a response is required.

Timely responses by the sellers in the sub-group are  
10 inputted into the computer 12, as shown at 44 in FIG. 1, the responses including either a price quote or no quote. Should a price quote response not be timely, the response is rejected and the corresponding seller is notified automatically that the seller's quote is rejected by the  
15 system. If an adequate number of timely price quotes are not received, the buyer is notified of the lack of interest in the purchase request as set forth by the buyer and the buyer is given an opportunity to modify the purchase request and resubmit the modified purchase request. For  
20 example, where the schedule of requirements in the purchase request includes a price which the system-qualified buyer is willing to pay, and a preset deviation from that price, the buyer is given an opportunity to expand the deviation for resubmission to the system. Likewise, where the  
25 schedule of requirements in the purchase request includes a desired delivery schedule, the buyer is given an opportunity to modify the delivery schedule for resubmission. If an adequate number of price quotes are received, a limited number of these price quotes are  
30 outputted for submission to the buyer, as indicated at 46 in FIG. 1, based primarily upon the lowest price quotes, but including such factors as performance history and financial strength of the corresponding sellers. The limited number preferably is selected to be a relatively  
35 low number, such as, for example, three, so as to reduce

the complexity of choice and accelerate the selection process. The price quotes submitted to the buyer include a rating and a history of performance of each corresponding seller in previous transactions. The buyer then selects  
5 one of the price quotes. Up to this point, the identity of the buyer remains unknown to the seller and the identity of the seller remains unknown to the buyer. Upon inputting the price quote selected by the buyer, as depicted at 48 in FIG. 1, the buyer's selection of a seller is outputted and  
10 is transmitted to the selected seller, all while still maintaining the anonymity of both the buyer and the seller. The seller then pays a fee to the system. Upon receipt of payment, the system releases the identity of the seller to the buyer and the identity of the buyer to the seller for  
15 completion of the transaction. Additionally, any stored proprietary items, such as digital artwork, CAD drawings, CAM programs, formulae, technical specifications, and the like, are downloaded to the seller in accordance with the buyer's request.

20 Referring now to FIG. 7, in the preferred system, upon completion of the transaction, the buyer is obligated to rate the performance of the seller and the seller is obligated to rate the performance of the buyer. The performance rating of the buyer by the seller is inputted  
25 into the computer 12 and the data pertaining to the buyer, which is stored in the data storage device 38, reflected in the first predetermined composite of criteria, is updated accordingly. The performance rating of the seller by the buyer is inputted into the computer 12 and the data  
30 pertaining to the seller, which is stored in the data storage device 38, reflected in the vendor criteria, is updated accordingly. Thus, the system evolves dynamically to continuously provide an increasingly effective selection of parties to particular transactions. Should the rating  
35 of the seller by the buyer be negative in any aspect, the

negative rating is added to the number of previous negative ratings, if any, pertaining to the particular seller. When the cumulative number of negative ratings reaches a predetermined threshold number, a warning is issued to the seller. If the total number of negative ratings does exceed the threshold, the seller is placed on a "probation" status.

The following fictitious scenarios are provided as examples of how the method and apparatus of the present invention serve to complete particular transactions. Thus, in a first example, a system-qualified buyer, a manufacturer of cosmetic products, is about to launch a new cosmetic product and requires packaging for the product. The buyer's packaging engineer has developed specifications for a folding carton and forwarded those specifications to the buyer's purchasing agent. Buyer's quality control unit has informed the purchasing agent of certain quality control requirements for the cartons, including that Good Manufacturing Practices (GFM) must be followed, and that one of every two hundred pieces must be sampled. In addition, the supplier, or seller, must be ISO 9000 certified. Buyer's marketing unit has advised the purchasing agent that time is of the essence and that one-thousand samples of the folding cartons are needed for a trade show scheduled to take place in three weeks. Buyer's sales unit has advised the purchasing agent that the initial order will be for twenty-five thousand folding cartons. Buyer's production unit has informed the purchasing agent that the product is scheduled for packaging in a contract packaging plant in three and one-half weeks. The contract packaging plant is located near St. Louis, approximately one-thousand miles from buyer's headquarters in New York City.

Using a desk-top computer, the purchasing agent accesses system 10 via the world wide web. After



successfully logging into system 10, he proceeds to enter a purchase request based upon the schedule of requirements provided by engineering, quality control, marketing, sales and production, as outlined above. The system presents a  
5 choice of commodities, and the purchasing agent selects folding cartons. The system then brings up a screen pertaining to folding cartons and the purchasing agent selects the style of the carton needed. He enters the dimensions of the carton in fields provided for such  
10 information, and uses a pull-down menu to select the grade of cardboard required. He then proceeds to select the colors to be printed on the carton, using a standard color matching system, such as the Pantone Matching System. He then enters a series of further requirements, indicating  
15 that the carton will be high gloss UV coated, and that a logo of given dimensions will be hot foil stamped at two positions on the carton and embossed on the front panel of the carton. Since the carton is a new item, no entry is made of a previous price paid or any deviation from such a  
20 price.

The purchasing agent then indicates that a split shipment is required, entering in a first field that one-thousand cartons are needed in three weeks, and entering in another field that the balance of the twenty-five thousand  
25 carton order is needed in three and one-half weeks. In order to minimize freight, he enters the zip code of the packaging plant and selects a radius of two-hundred miles.

The purchasing agent then goes to a quality section and selects "cosmetic", GMP level 2, and ISO 9000. He then  
30 selects the desired sampling, indicating one out of every two-hundred pieces must be checked. At an appropriate prompt, he downloads into the system an engineering drawing furnished to him by the packaging engineer. Finally, he indicates that any quotes must be completed by 2:30 PM the  
35 next afternoon and that the results should be E-mailed to

him, requesting, in this instance, that he be furnished with the five most favorable quotes. He then initiates the request for a quote.

The system acknowledges receipt of the request for a  
5 quote and indicates that results will be E-mailed to the purchasing agent at 2:30 PM the next day, as requested. Then, utilizing buyer's previously stored basic requirements together with the specific tangible and intangible requirements of this particular purchase  
10 request, the system screens all possible system-qualified sellers to find a group of system-qualified sellers capable of satisfying all of the requirements of the buyer in this particular request. In this instance, the system establishes a group of fourteen such sellers. The system  
15 then automatically screens the individual requirements of the fourteen sellers of the selected group against the composite of criteria stored in the system pertaining to the buyer and yields a sub-group of nine sellers willing to sell to the buyer. (The screening revealed that the buyer  
20 averages seventy-one days to pay bills, which was indicated as unacceptable to four of the sellers of the group, while a fifth seller indicated it would not accept orders for less than one-hundred-thousand pieces.) The nine sellers of the sub-group are E-mailed the request for a quote.

25 Eight of the nine sellers of the sub-group respond to the request for a quote in a timely manner. The eight timely responses are sorted automatically by the system and, at 2:30 PM the next day, the five lowest price quotes are E-mailed to the buyer, as requested, along with  
30 information pertaining to performance histories of the sellers. At this stage, the buyer and the sellers remain anonymous. The purchasing agent reviews the five quotes and decides to discard the lowest price quote because the corresponding performance history indicates only one  
35 successful job and one marginal job. The next lowest quote

(3% higher than the lowest quote) also is discarded on the basis that the corresponding seller is new to the system and has no history. The purchasing agent opts for the third lowest quote (8% higher than the lowest quote) based  
5 upon a performance history which indicates seven successful jobs and no complaints. He chooses to respond to the system by E-mail rather than logging back in.

Upon receipt of the purchasing agent's E-mail response, the system automatically notifies the selected  
10 seller of the selection and the selected seller is instructed to remit the system-required fee. The selected seller wire transfers the fee and the system automatically identifies the buyer to the seller and the seller to the buyer and the transaction goes to completion. A purchase  
15 order is issued by the buyer to the seller, and the seller commences to fill the order.

Three weeks later, one-thousand sample cartons are delivered to buyer's New York City headquarters, and twenty-four thousand cartons are sent to the St. Louis  
20 facility. The buyer pays the seller in eighty-six days. The system sends the buyer a follow-up form, and the buyer gives the seller a very high satisfaction rating. The rating is entered into the system and the seller's performance index is automatically adjusted upwardly. The  
25 system sends a follow-up form to the seller, and the seller notes that the buyer paid in eighty-six days, which is twenty-six days beyond the terms of the transaction. The information is entered into the system and the buyer's credit composite automatically is adjusted downwardly.

30 In a second example, the system-qualified buyer is a large national bakery products company. The buyer uses resource planning software for supply chain management so that all inventory is managed automatically. Thus, the buyer has stored information, including specifications,  
35 engineering drawings and artwork for each of its folding

cartons in an arrangement similar to that described hereinabove, in connection with FIG. 5A. When the quantity of a particular folding carton reaches a pre-programmed trigger point, the stored information is forwarded, automatically, in the form of a request for a quote, in standardized file format, to the sourcing engine of a system constructed in accordance with the present invention. The request is sent via E-mail and includes carton dimensions, carton style, printing and coating specifications, grade and thickness of cardboard, the quantity needed, where the cartons are to be shipped, the last price paid, an acceptable level of upward deviation, a schedule of release dates over a six month period, and the date/time when quotes must be received.

When the request reaches the sourcing engine, the information in the request, together with the global constraints of the buyer (already stored in the system) is used to establish a group of system-qualified sellers able to meet the requirements of the buyer's request for a quote. In this particular example, the information in the request indicates that the buyer wants to do business only with sellers who have sales in excess of \$5,000,000, only with sellers who warehouse inventory and will release inventory over six months, and only with sellers who follow FDA procedures for food packaging, and the system establishes a group of thirty-one sellers who can satisfy the criteria. The system then checks to see if the buyer satisfies the individual criteria required by each of the sellers. Since the buyer pays its bills in an average of thirty-three days and has a very strong financial statement, a satisfactory match is indicated between the buyer and all thirty-one of the sellers and a request for a quote is forwarded to all of the sellers in the group.

When the date/time arrives, twenty-eight of the thirty-one sellers have responded with a quote. Two of the

twenty-eight quotes are outside the predetermined price deviation and are discarded by the system. The remaining twenty-six quotes are sorted in ascending order. In this instance, the buyer has authorized the system to select the lowest price quote for automatic completion of the transaction. Accordingly, the system notifies the seller that the seller has been selected. The seller then wire transfers the system-required fee and the buyer's latest artwork and CAD drawings are sent to the seller directly from the system. The system identifies the buyer to the seller and the seller to the buyer and the transaction goes forward to completion.

Six weeks later, the first shipment arrives on time. The buyer pays the seller twenty-seven days later. The system sends a rating request to the buyer who automatically responds with an acceptable rating. The system sends a rating request to the seller who rates the buyer as a good customer. Both the buyer's and the seller's performance composites are adjusted upwardly.

It will be seen that the method and system of the present invention reduces the time and complexity of choice in completing a transaction between a buyer and a seller of goods or services by automatically selecting parties to the transaction from system-qualified buyers and system-qualified sellers. As such, the method and system attains the several objects and advantages summarized above, namely: Automatically selects parties for a particular transaction from qualified buyers and qualified sellers available in a market for goods or services; takes into account composites of criteria established by both buyers and sellers in order to effect rapid and accurate selection of parties to a particular sales transaction; enables an evaluation based upon past performance of potential parties to a transaction in the automatic selection of parties to a particular transaction; provides increased flexibility

in completing a transaction between selected parties to a sales transaction; facilitates completion of a particular sales transaction through automatically furnishing proprietary items, such as technical data, as well as  
5 detailed specifications pertinent to the transaction; enables a purchaser to obtain rapid and accurate fulfillment of specific purchase requests at an advantageous price in fields which offer a multiplicity of suppliers; attains improved profitability for suppliers;  
10 reduces transaction costs for both buyers and sellers; promotes a dynamic system which evolves continually into a more effective selection of parties to particular transactions; provides a reliable system for effecting automatic transactions between buyers and sellers of goods  
15 or services at more advantageous prices and conditions.

It is to be understood that the above detailed description of preferred embodiments of the invention is provided by way of example only. Various details of design, construction and procedure may be modified without  
20 departing from the true spirit and scope of the invention, as set forth in the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method of operating a computer system for the automatic selection of parties to a transaction between a  
5 system-qualified buyer of goods or services and a system-qualified seller of goods or services, the method comprising the steps of:

inputting into the computer system a first predetermined composite of criteria representing each buyer  
10 qualified to enter the computer system as a system-qualified buyer;

inputting into the computer system a second predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller in  
15 the computer system, the second predetermined composite of criteria including vendor criteria pertaining to the ability of the seller to deliver goods or services, and vending criteria pertaining to requirements of the seller in a particular transaction in order for the seller to sell  
20 to a particular buyer;

entering into the computer system a request for a quote by a buyer identified as a system-qualified buyer, the request for a quote including a schedule of requirements established by the system-qualified buyer;

25 comparing in the computer system the schedule of requirements with the vendor criteria of the second predetermined composite of criteria to establish a selected group of system-qualified sellers able to meet the schedule of requirements;

30 comparing in the computer system the vending criteria of each seller of the selected group of system-qualified sellers with the first predetermined composite of criteria to establish a sub-group of sellers willing to sell to the system-qualified buyer entering the request for a quote;

outputting from the computer system the request for a quote for submission to the sub-group of system-qualified sellers for timely responses by sellers of the sub-group of system-qualified sellers;

5       inputting into the computer system timely responses by responding sellers of the sub-group of system-qualified sellers, each timely response including a price required by a corresponding responding seller, and outputting from the computer system the timely responses inputted by the  
10       responding sellers for selection by the buyer of a response from among those timely responses inputted by responding sellers;

          inputting into the computer system a buyer selected response and outputting from the computer system the buyer  
15       selected response to notify the seller corresponding to the selected response of the selection of the selected response by the buyer; and

          outputting from the computer system to the buyer the identity of the seller and outputting from the computer  
20       system to the seller the identity of the buyer for completion of the transaction.

2.       The method of claim 1 wherein the request for a quote includes a schedule of intangible requirements, and  
25       the method includes comparing in the computer system the intangible requirements with the second predetermined composite of criteria to include in the selected group of system-qualified sellers only those sellers able to meet the intangible requirements.

30

3.       The method of claim 1 wherein the responses of sellers outputted to buyers is limited in number to a predetermined number based upon lowest prices.



4. The method of claim 1 wherein the schedule of requirements in the request for a quote includes a price which the system-qualified buyer is willing to pay and a preset deviation from the price, and the method includes, 5 subsequent to outputting from the computer system the responses of the responding sellers, the selective inputting into the computer system of a modified request for a quote including an expansion of the deviation for submission of the modified request for a quote to the sub- 10 group of system-qualified sellers.

5. The method of claim 4 wherein the schedule of requirements in the request for a quote includes a desired delivery schedule and the modified request for a quote 15 includes a modified delivery schedule.

6. The method of claim 1 including inputting into the computer system, subsequent to completion of the transaction, a rating by the buyer of the performance of 20 the seller, and including the rating in the vendor criteria of the second predetermined composite of criteria.

7. The method of claim 1 including inputting into the computer system, subsequent to completion of the 25 transaction, a rating by the seller of the performance of the buyer, and including the rating in the first predetermined composite of criteria.

8. The method of claim 1 including storing in the 30 computer system proprietary items pertaining to the goods or services to be purchased by the system-qualified buyer, and subsequent to outputting from the computer system to the buyer the identity of the seller and outputting from the computer system to the seller the identity of the

buyer, outputting the proprietary items to the selected seller.

9. A computer system operated for the automatic  
5 selection of parties to a transaction between a system-qualified buyer of goods or services and a system-qualified seller of goods or services, the computer system comprising:

an inputting device for:

10 inputting into the computer system a first predetermined composite of criteria representing each buyer qualified to enter the computer system as a system-qualified buyer;

inputting into the computer system a second  
15 predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller in the computer system, the second predetermined composite of criteria including vendor criteria pertaining to the ability of the seller to deliver goods or services, and  
20 vendee criteria pertaining to requirements of the seller in a buyer in order for the seller to sell to a particular buyer; and

entering into the computer system a request for a quote by a buyer identified as a system-qualified buyer,  
25 the request for a quote including a schedule of requirements established by the system-qualified buyer;

such that the computer system compares:

the schedule of requirements with the vendor criteria  
of the second predetermined composite of criteria to  
30 establish a selected group of system-qualified sellers able to meet the schedule of requirements; and

the first predetermined composite of criteria with the vendee criteria of each seller of the selected group of system-qualified sellers to establish a sub-group of

sellers willing to sell to the system-qualified buyer entering the request for a quote; and

an outputting device for:

outputting from the computer system the request for a  
5 quote for submission to the sub-group of system-qualified  
sellers for timely responses by sellers of the sub-group of  
system-qualified sellers;

the inputting device further being operative for:

inputting into the computer system timely responses by  
10 responding sellers of the sub-group of system-qualified  
sellers, each timely response including a price required by  
a corresponding responding seller, and outputting from the  
computer system the timely responses inputted by the  
responding sellers for selection by the buyer of a response  
15 from among those timely responses inputted by responding  
sellers; and

inputting into the computer system a buyer selected  
response and outputting from the computer system the buyer  
selected response to notify the seller corresponding to the  
20 selected response of the selection of the selected response  
by the buyer; and

the outputting device further being operative for:

outputting from the computer to the buyer the identity  
of the seller and outputting from the computer to the  
25 seller the identity of the buyer for completion of the  
transaction.

10. The computer system of claim 9 wherein the  
request for a quote includes a schedule of intangible  
30 requirements, and the inputting device is further operative  
for comparing the intangible requirements with the second  
predetermined composite of criteria so as to include in the  
selected group of system-qualified sellers only those  
sellers able to meet the intangible requirements.

35

11. The computer system of claim 9 wherein the outputting device is further operative for limiting in number the responses of sellers outputted to buyers to a predetermined number based upon lowest prices.

5

12. The computer system of claim 9 wherein the schedule of requirements in the request for a quote includes a price which the system-qualified buyer is willing to pay and a preset deviation from the price and, subsequent to outputting from the computer system the responses of the responding sellers, the inputting device further being operative for the selective inputting into the computer system of a modified request for a quote including an expansion of the deviation for submission of the modified request for a quote to the sub-group of system-qualified sellers.

13. The computer system of claim 12 wherein the schedule of requirements in the request for a quote includes a desired delivery schedule and the modified request for a quote inputted into the computer system by the inputting device includes a modified delivery schedule.

14. The computer system of claim 9 wherein the inputting device is further operative for inputting into the computer system, subsequent to completion of the transaction, a rating by the buyer of the performance of the seller, and including the rating in the vendor criteria of the second predetermined composite of criteria.

30

15. The computer system of claim 9 wherein the inputting device is further operative for inputting into the computer system, subsequent to completion of the transaction, a rating by the seller of the performance of

the buyer, and including the rating in the first predetermined composite of criteria.

16. The computer system of claim 9 including a data  
5 storage device for storing in the computer system  
proprietary items pertaining to the goods or services to be  
purchased by the system-qualified buyer, the outputting  
device being further operative for outputting the  
proprietary items to the selected seller, subsequent to  
10 outputting from the computer system to the buyer the  
identity of the seller and outputting from the computer  
system to the seller the identity of the buyer.

17. An improvement in a method of operating a  
15 computer system for the automatic selection of parties to  
a transaction to be completed between a system-qualified  
buyer of goods or services and a system-qualified seller of  
goods or services, wherein a first predetermined composite  
of criteria representing each buyer qualified to enter the  
20 computer system as a system-qualified buyer is inputted  
into the computer system and a second predetermined  
composite of criteria representing each seller qualified to  
serve as a system-qualified seller in the computer system  
is inputted into the computer system, the second  
25 predetermined composite of criteria including vendor  
criteria pertaining to the ability of the seller to deliver  
goods or services, and vending criteria pertaining to  
requirements of the seller in a particular transaction in  
order for the seller to sell to a particular buyer, the  
30 improvement comprising: inputting into the computer  
system, subsequent to completion of the transaction, a  
rating by the buyer of the performance of the seller, and  
including the rating in the vendor criteria of the second  
predetermined composite of criteria.

35

18. An improvement in a method of operating a computer system for the automatic selection of parties to a transaction to be completed between a system-qualified buyer of goods or services and a system-qualified seller of goods or services, wherein a first predetermined composite of criteria representing each buyer qualified to enter the computer system as a system-qualified buyer is inputted into the computer system and a second predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller in the computer system is inputted into the computer system, the improvement comprising: inputting into the computer system, subsequent to completion of the transaction, a rating by the seller of the performance of the buyer, and including the rating in the first predetermined composite of criteria.

19. In a computer system operated for the automatic selection of parties to a transaction to be completed between a system-qualified buyer of goods or services and a system-qualified seller of goods or services, wherein an inputting device is operative for inputting into the computer system a first predetermined composite of criteria representing each buyer qualified to enter the computer system as a system-qualified buyer and a second predetermined composite of criteria representing each seller qualified to serve as a system-qualified seller in the computer system, the second predetermined composite of criteria including vendor criteria pertaining to the ability of the seller to deliver goods or services, and vending criteria pertaining to requirements of the seller in a particular transaction in order for the seller to sell to a particular buyer, the improvement wherein: the inputting device is further operative for inputting into the computer system, subsequent to completion of the transaction, a rating by the buyer of the performance of

the seller, and including the rating in the vendor criteria of the second predetermined composite of criteria.

20. In a computer system operated for the automatic  
5 selection of parties to a transaction to be completed  
between a system-qualified buyer of goods or services and  
a system-qualified seller of goods or services, wherein an  
inputting device is operative for inputting into the  
computer system a first predetermined composite of criteria  
10 representing each buyer qualified to enter the computer  
system as a system-qualified buyer and a second  
predetermined composite of criteria representing each  
seller qualified to serve as a system-qualified seller in  
the computer system, the improvement wherein: the  
15 inputting device is further operative for inputting into  
the computer system, subsequent to completion of the  
transaction, a rating by the seller of the performance of  
the buyer, and including the rating in the first  
predetermined composite of criteria.

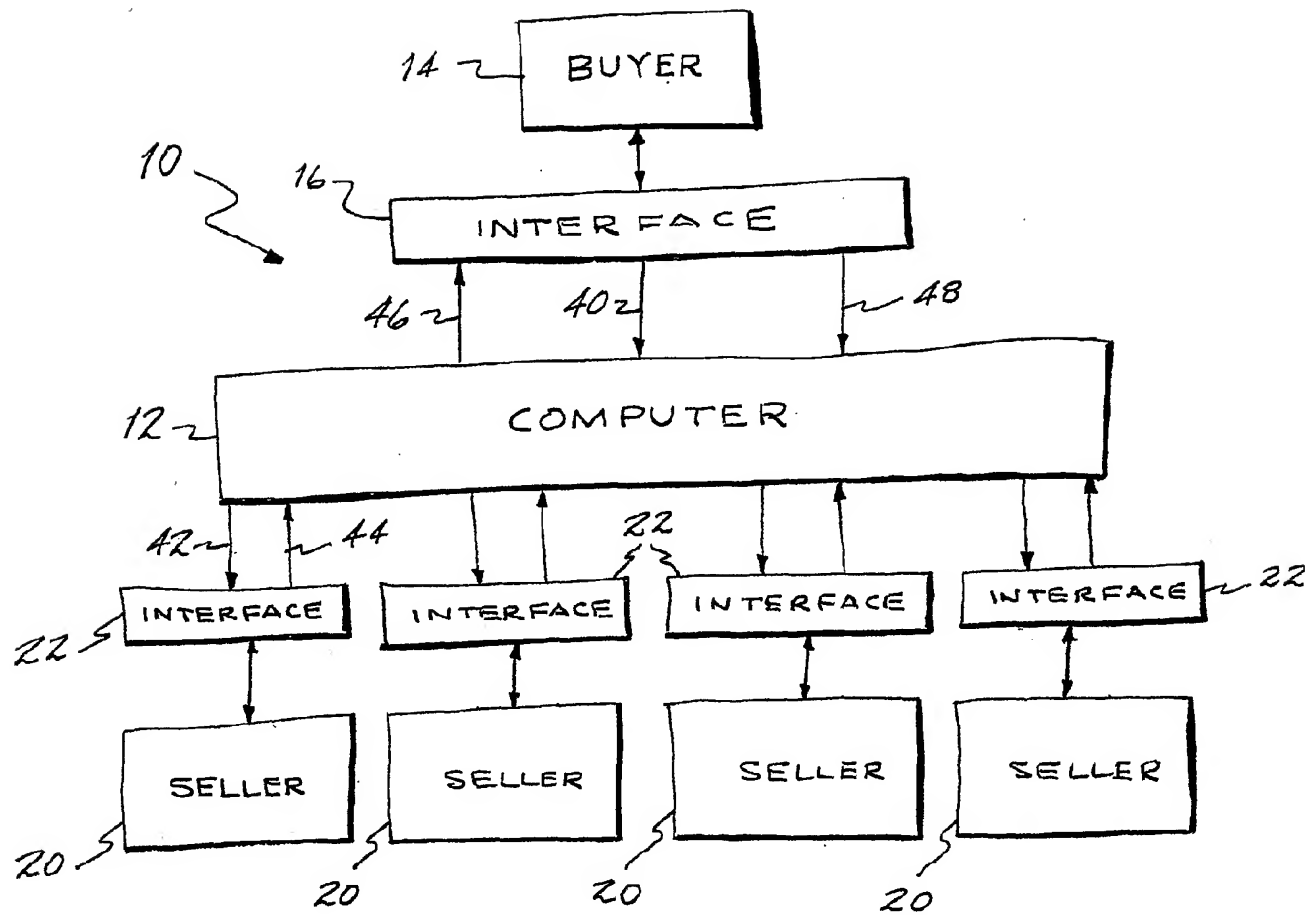


FIG. 1



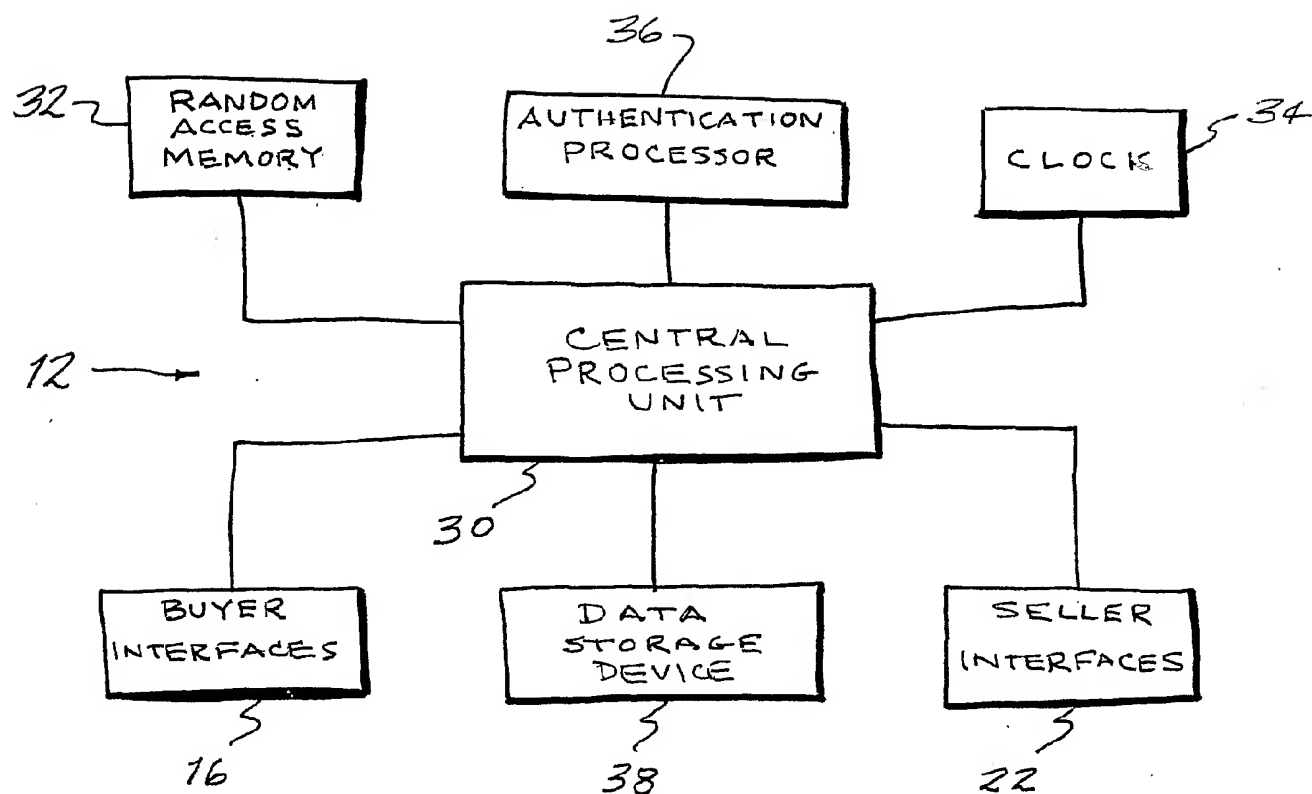


FIG. 2

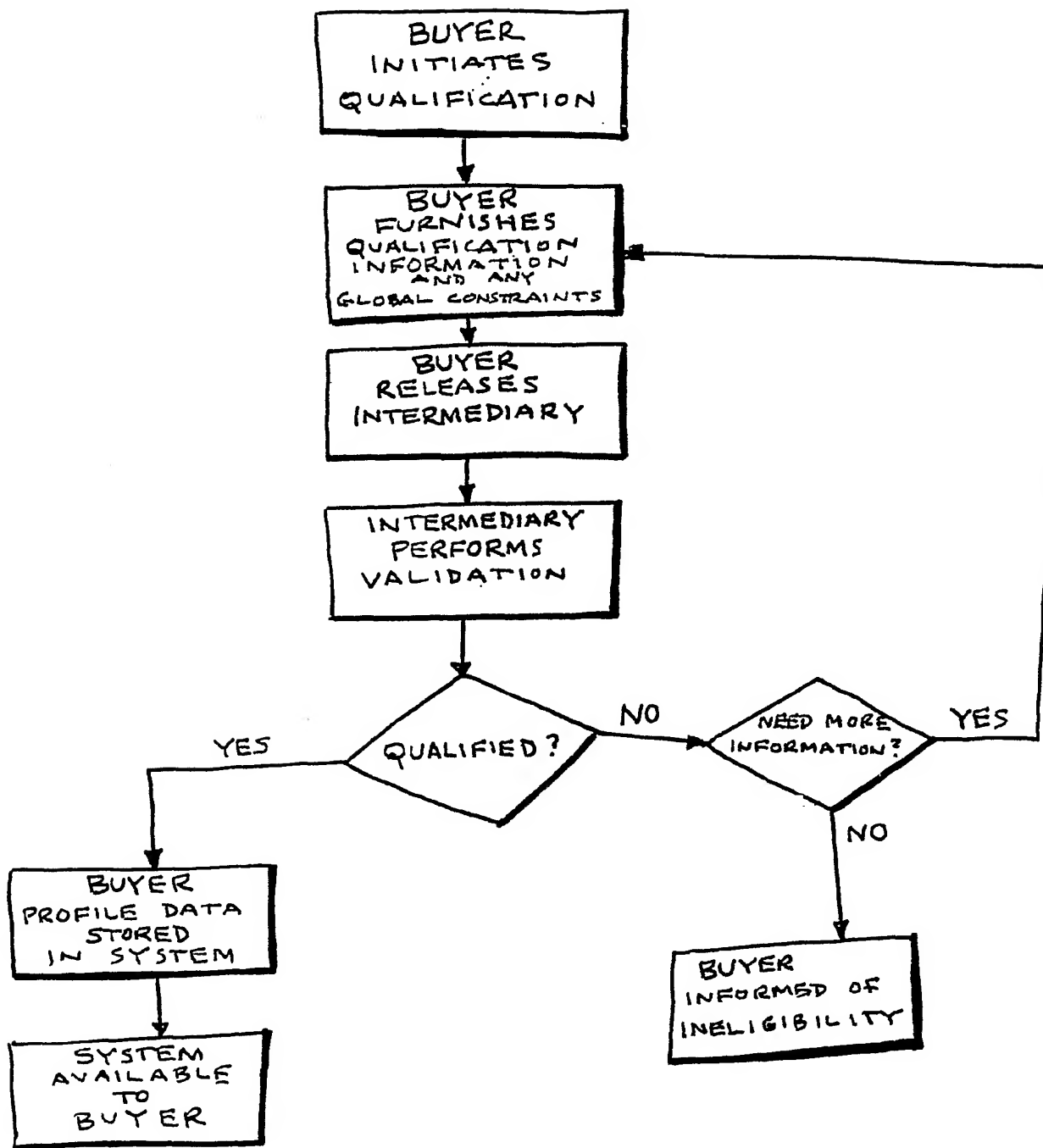


FIG. 3

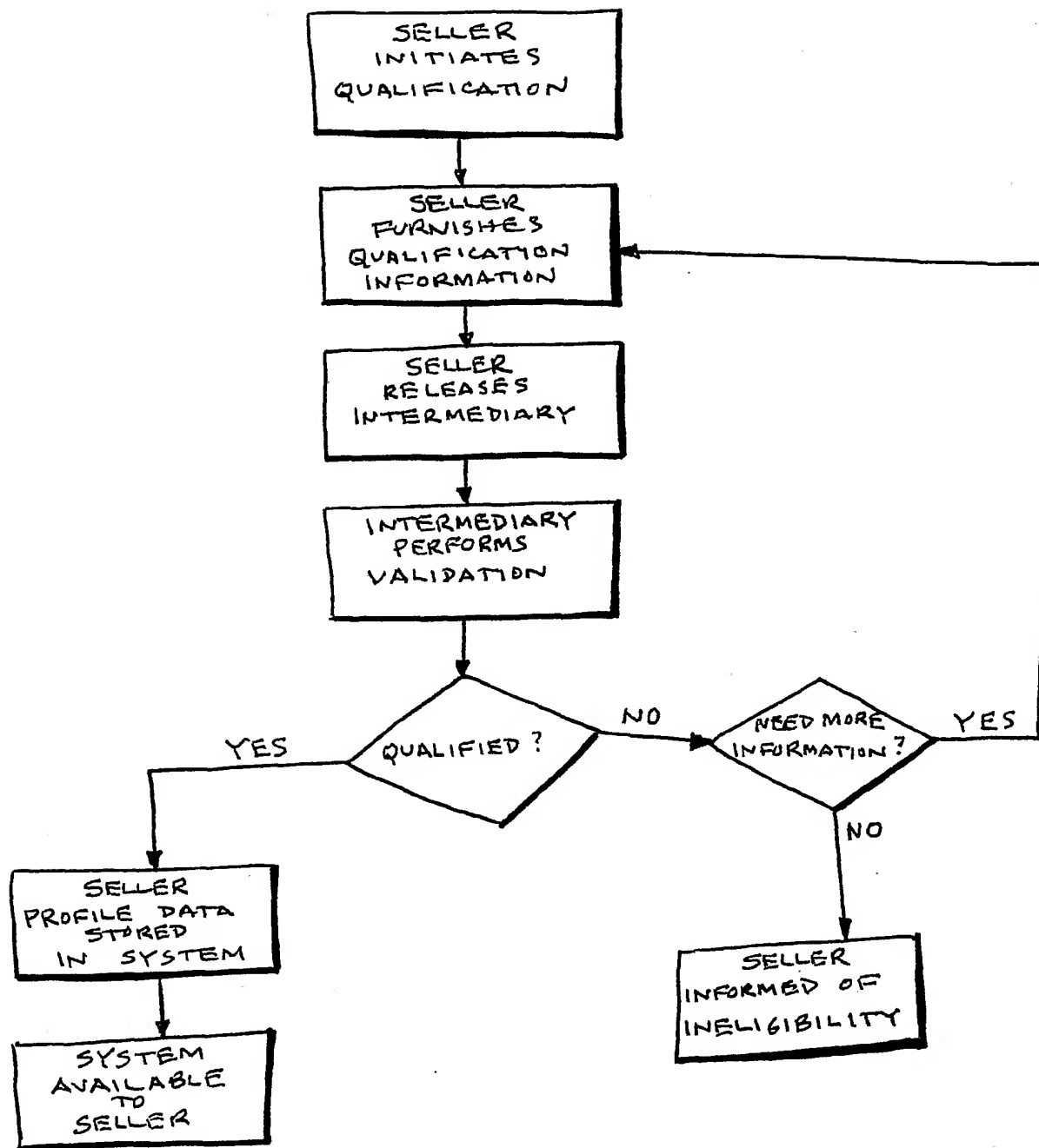


FIG. 4

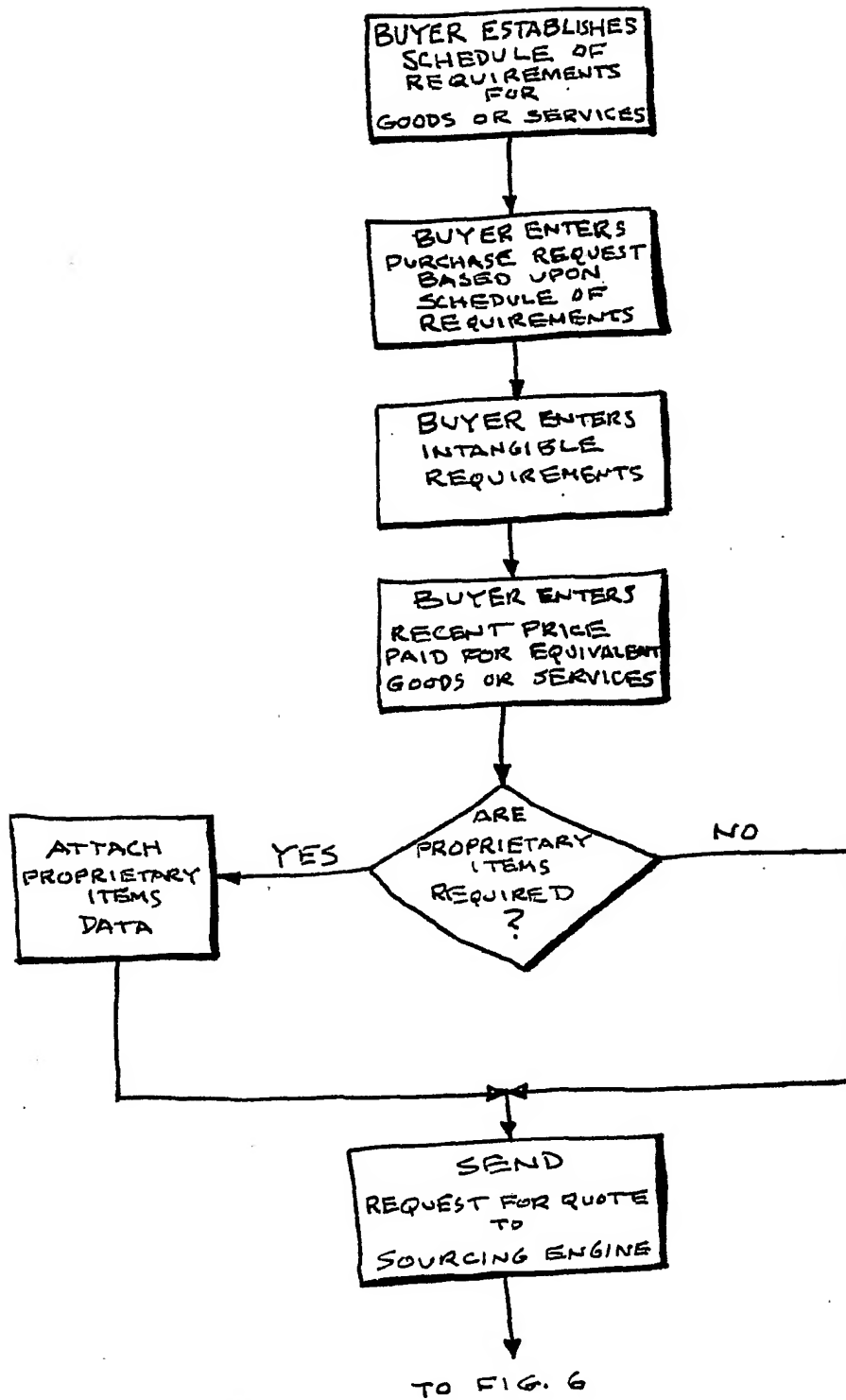


FIG. 5

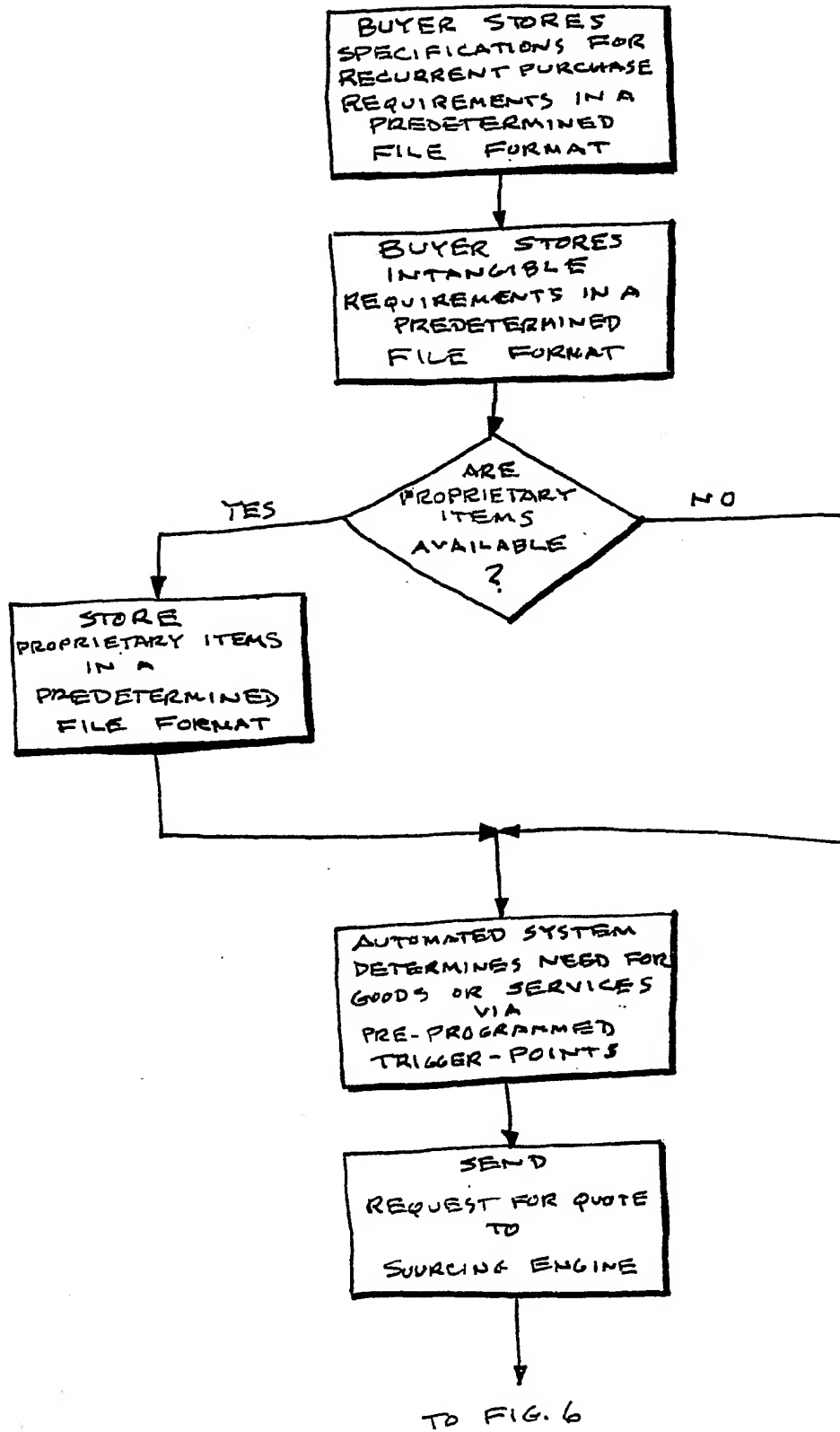


FIG. 5A

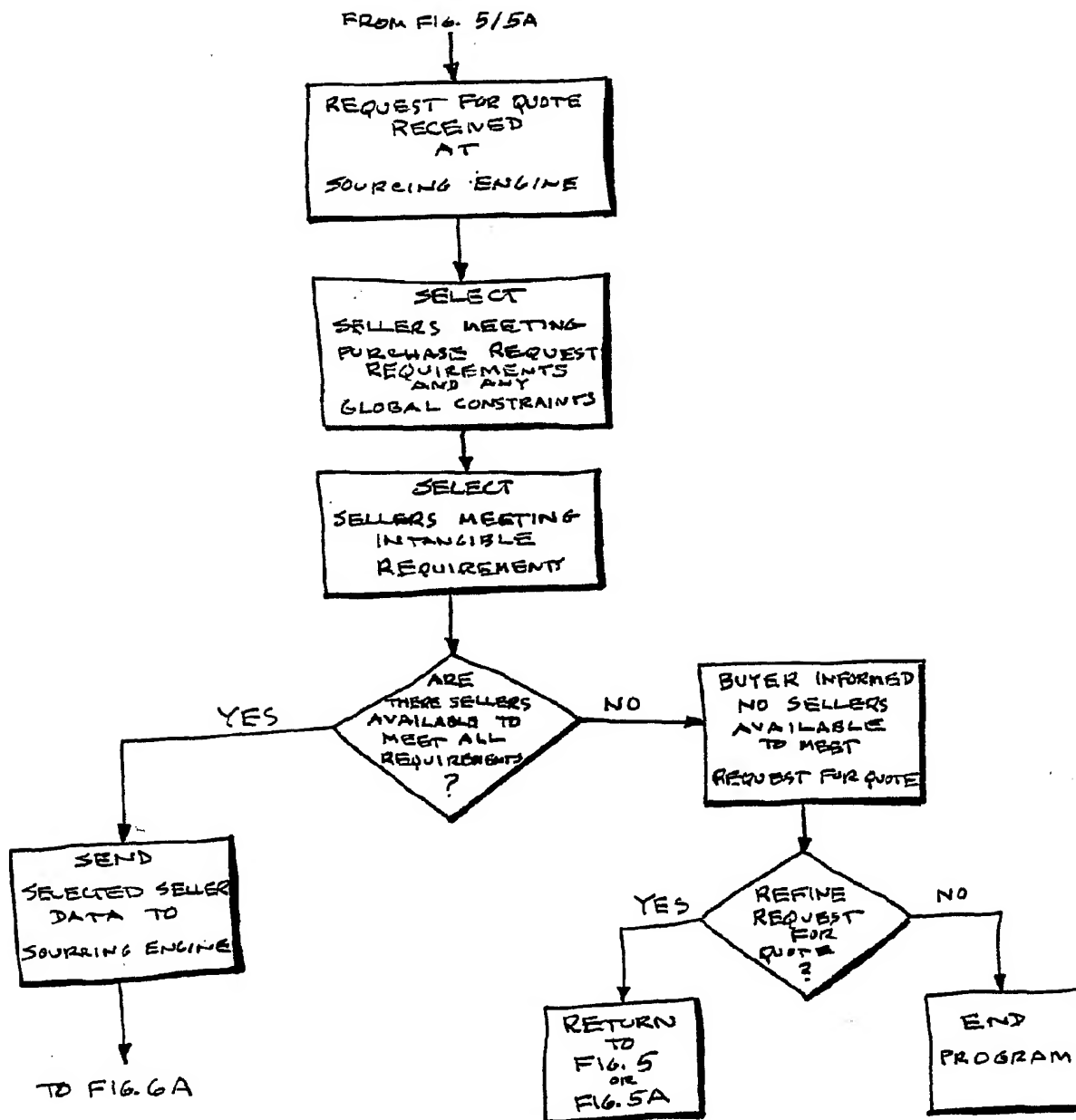


FIG. 6

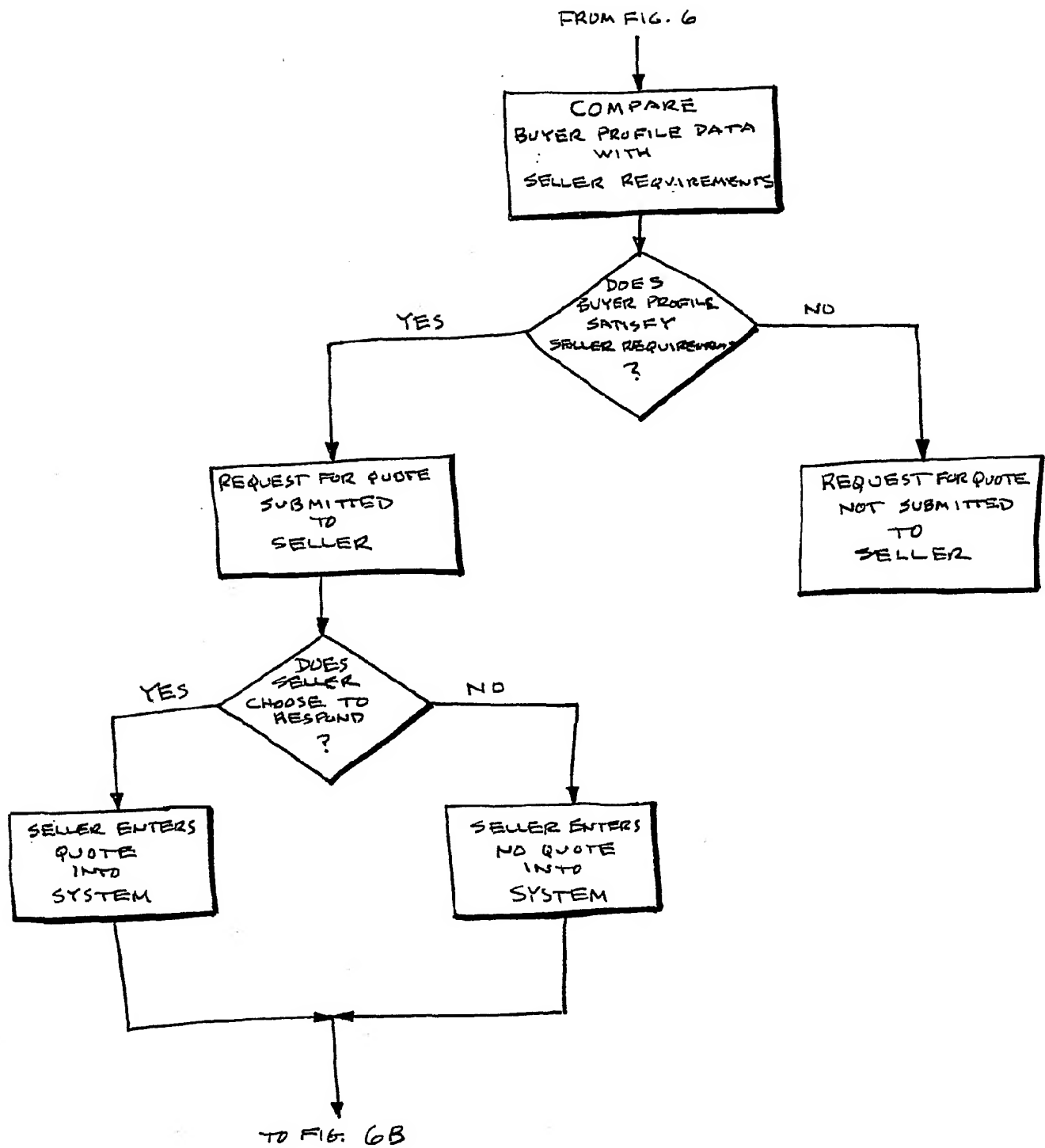


FIG. 6A

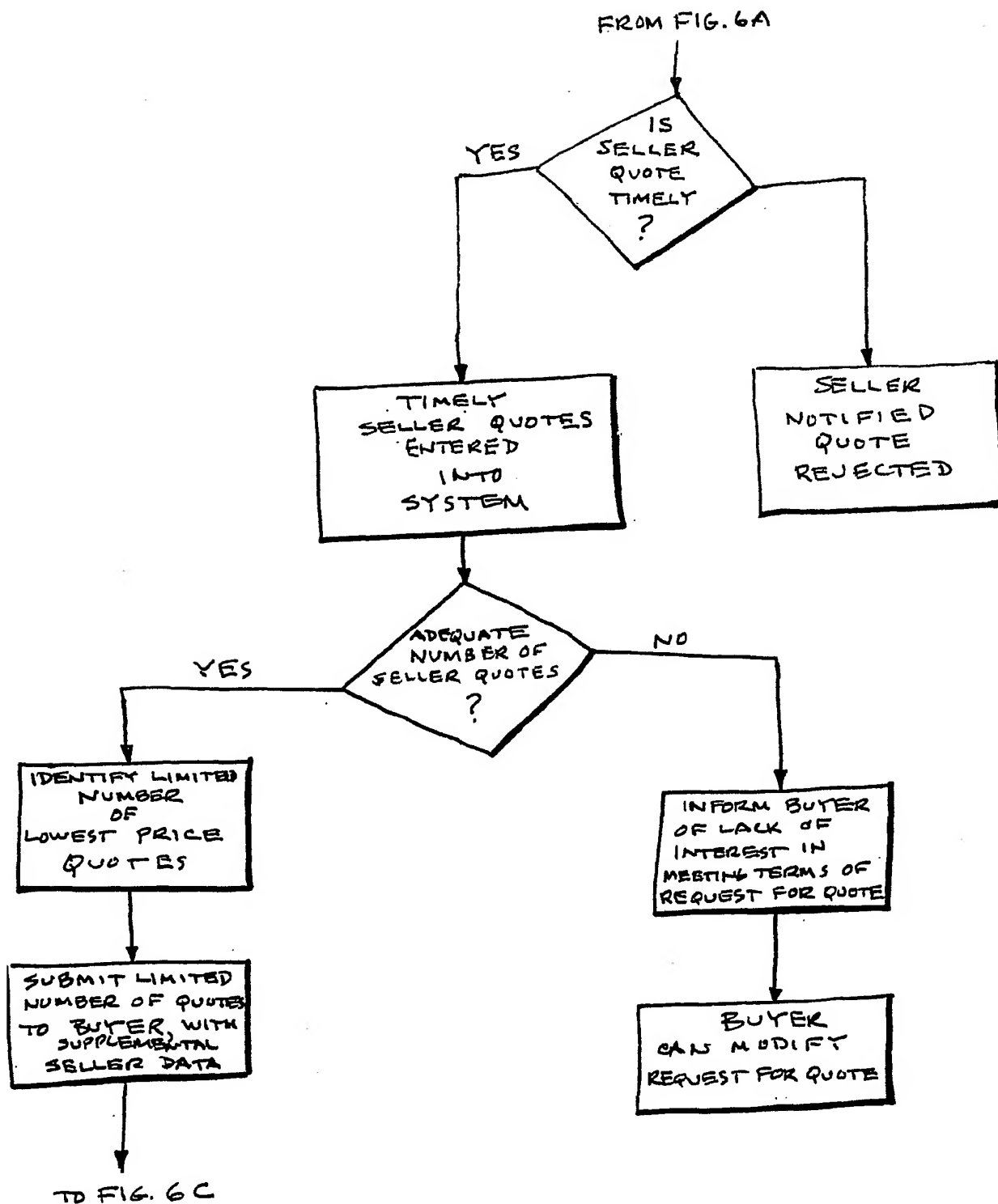


FIG. 6B



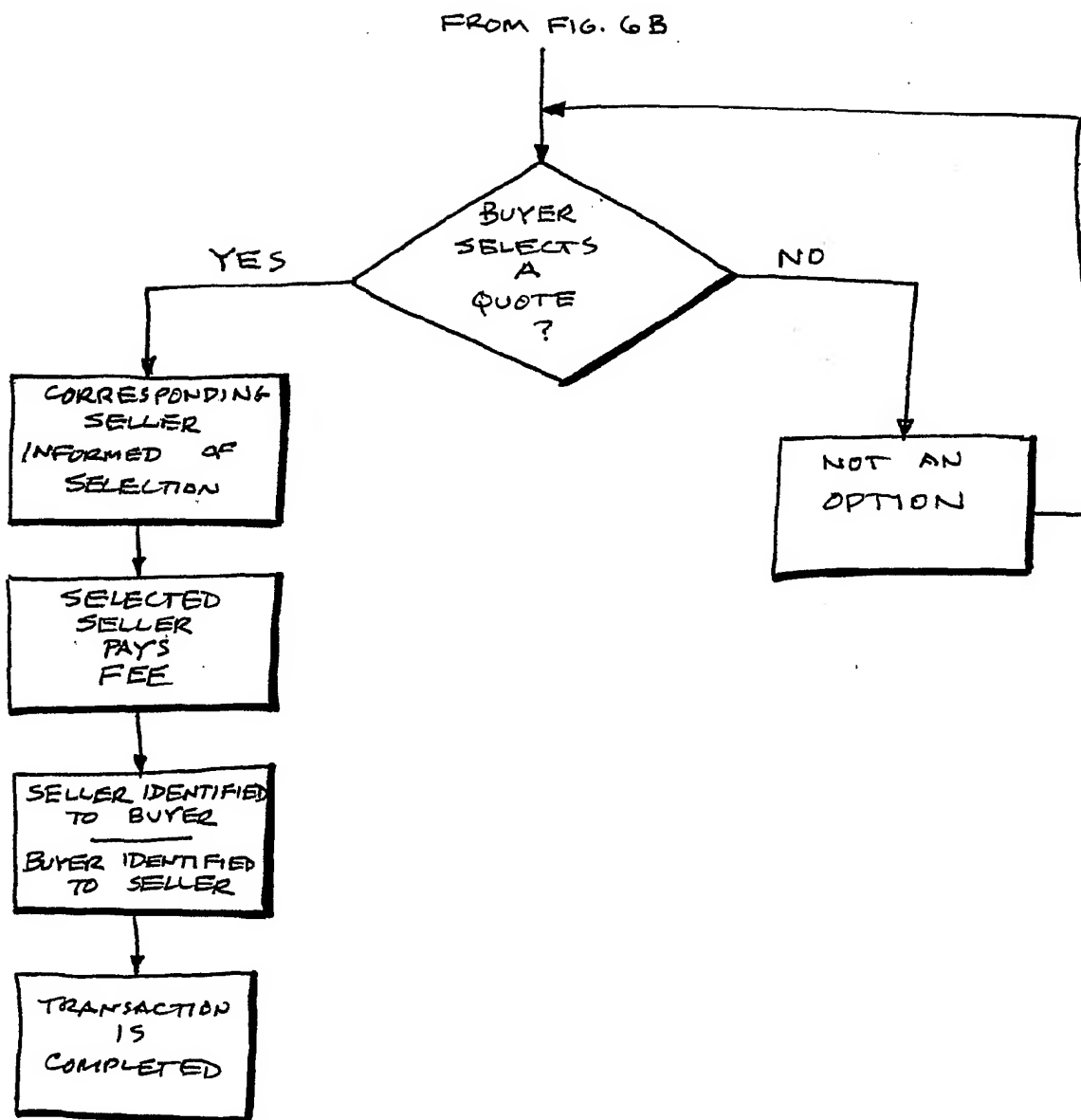


FIG. 6C

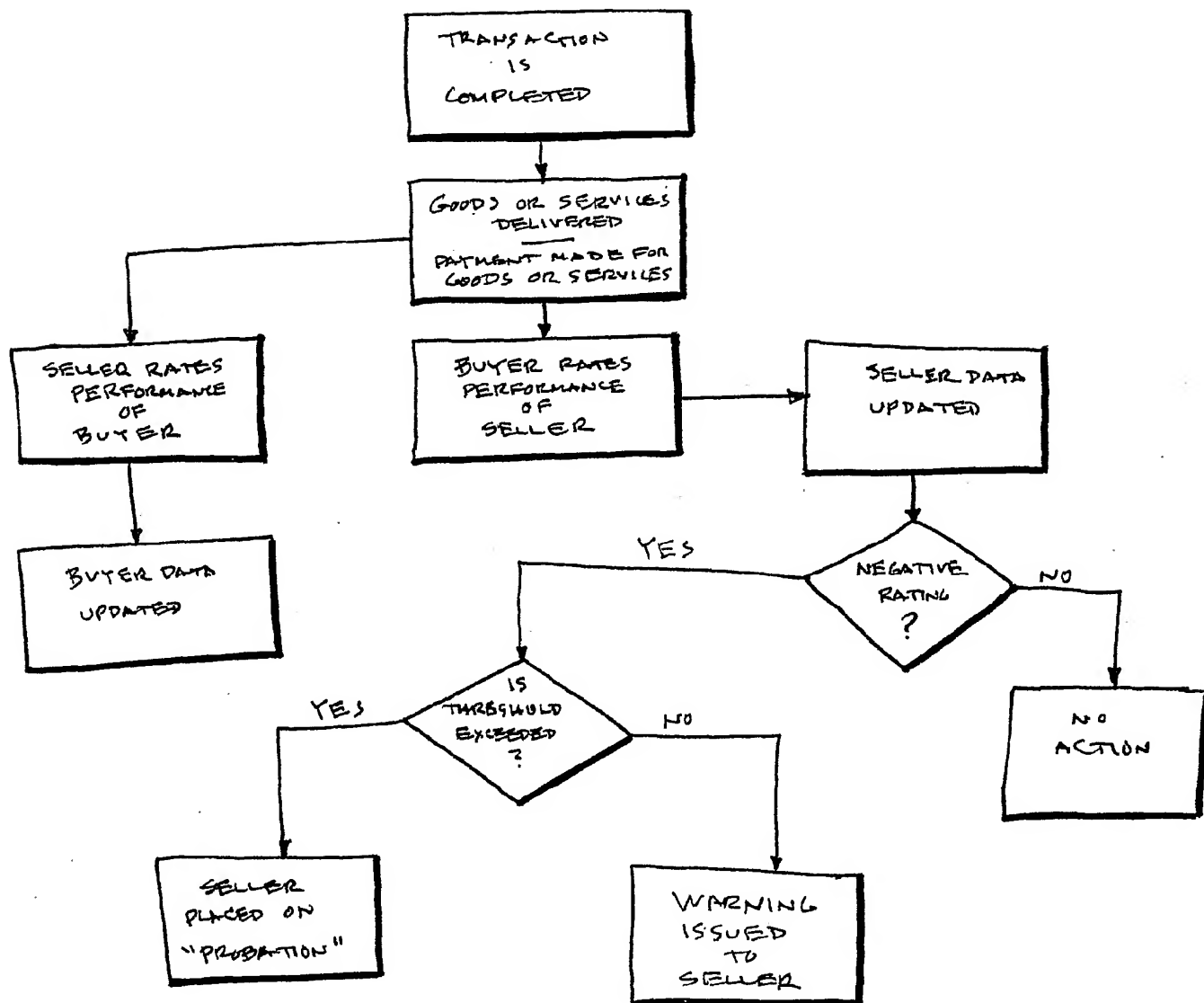


FIG. 7

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US01/01855

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : G06F 17/60

US CL : 705/37, 26

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/37, 26

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST, Dialog, Internet

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,664,115 A ( FRASER ) 02 September 1997, Title, Abstract, lines 1-5 and 16-18, Figs. 1-9 , col 5, 51-60, col 6, lines 49-51, 59-67	1-20
Y	US 5,950,172 A ( KLINGMAN ) 07 September 1999, Title, Abstract, lines 1-13, Figs. 3-7	1-20
Y	Internet printout from eBay, pages 1 and 2	1-20

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>		<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>	
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Date of the actual completion of the international search

23 MARCH 2001

Date of mailing of the international search report

20 APR 2001

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

TARIQ HAFIZ

Telephone No. (703) 305-9643